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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

May 19, 1999

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Ms. Magalie Salas

Secretary

Federal Communications Commission

445 12th Street SW, Room TW-B204

Washington DC 20554

**Re: RM-9514, Amendment of Part 18 of the Commission's Rules to Update ISM
Regulations and Promote Deployment of New, High Bandwidth Communications
Devices**

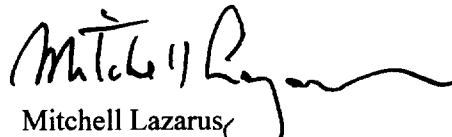
Dear Ms. Salas:

On behalf of Harmonix Corporation, I enclose for filing with the Commission the original and four copies of Comments of Harmonix Corporation in the above-referenced proceeding.

Kindly date-stamp and return the extra copy of this cover letter.

If there are any questions about this filing, please call me at the number above.

Respectfully submitted,


Mitchell Lazarus
Counsel for Harmonix Corporation

ML:Deb

Enclosures

cc: Shey Hakasui, Harmonix Corporation
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ORIGINAL

Before the
Federal Communications Commission
Washington DC 20554

In the Matter of)
)
Amendment of Part 18 of the Commission's)
Rules to Update ISM Regulations and) RM-9514
Promote Deployment of New, High)
Bandwidth Communications Devices)

COMMENTS OF HARMONIX CORPORATION

Pursuant to Section 1.405 of the Commission's Rules, Harmonix Corporation (Harmonix) hereby files these Comments in support of the above-captioned Petition for Rule Making.¹ Harmonix manufactures point-to-point equipment for unlicensed use in the 59-64 GHz band.

Introduction

The 61.0-61.5 GHz ISM band lies within the 59-64 GHz Part 15 band. The Petitioner correctly notes that 61 GHz ISM equipment is permitted to operate with unlimited emissions,² while the emissions of Part 15 equipment are severely restricted.³ ISM equipment thus presents a threat of severe interference to Part 15 operation.⁴ Moreover, because the ISM allocation is almost exactly centered in the Part 15 band, its effect will be to split down the middle the only

¹ Petition for Rulemaking of the Millimeter Wave Communications Working Group (Petitioner) (filed March 2, 1999) (Petition). The Petition appeared on Public Notice in Report No. 2322 (released March 18, 1999). In response to a Motion for Extension of Time from the International Microwave Power Institute (filed April 19, 1999), the Commission extended time for comments until May 19, 1999. Amendment to Update ISM Regulations, RM-9514, Order Granting Extension of Time, DA 99-760 (released April 20, 1999).

² 47 C.F.R. § 18.305(a); Petition at 4.

³ 47 C.F.R. § 15.255(b).

⁴ See Petition at 4.

contiguous 5 GHz of spectrum ever allocated for communications.⁵ That in turn would limit the potential of 59-64 GHz equipment to achieve the Commission's goal of "communications capabilities approaching those now achievable only with coaxial and optical fiber cable."⁶ Even if ISM manufacturers do not immediately market interfering equipment, the threat of such interference will chill the development of 59-64 GHz products and thus deprive the public of inexpensive, high-bandwidth communications facilities.⁷

Harmonix agrees with the Petitioner that the Commission should amend Section 18.305(a) to limit 61 GHz ISM devices to the same emissions levels as Part 15 equipment.

Discussion

The rule that permits unlimited in-band emissions for ISM equipment originated more than 50 years ago. When it was promulgated, shortly after World War II, the Commission's general policy was to make exclusive allocations for each service. Radio communications were relatively primitive at that time. There was little demand for spectrum, compared to today, and hence plenty of unallocated bands for any service that needed them. Now, of course, conditions

⁵ See Petition at 4.

⁶ Use of Radio Frequencies Above 40 GHz for New Radio Applications, 11 FCC Rcd 4481 at ¶ 14 (1995) (First Report and Order and Second Notice of Proposed Rule Making). The Commission declined to put an exclusive vehicle radar band at 60-61 GHz on the ground that breaking up the 59-64 GHz band could potentially interfere with the development of important new applications. *Id.* at ¶ 14. The effect of unlimited ISM emissions in the 61 GHz band would be no different.

⁷ See Petition at 4-5.

are very different. Ever-accelerating congestion has necessitated sharing in many bands, including the ISM bands, all but one of which are now allocated for multiple purposes.⁸

The unlimited-emissions rule for ISM can no longer be justified in today's overburdened spectrum — especially for products whose successful operation does not depend on emissions outside the device. Indeed, ISM is the only FCC-regulated radio service without in-band emissions restrictions. The public interest can no longer support that policy.

Although the Commission has not yet regulated in-band ISM emissions, it has all necessary authority to do so. Section 302(a) of the Communications Act provides:

The Commission may, consistent with the public interest, convenience, and necessity, make reasonable regulations (1) governing the interference potential of devices which in their operation are capable of emitting radio frequency energy by radiation, conduction, or other means in sufficient degree to cause harmful interference to radio communications⁹

In-band limits at 61 GHz are consistent with international footnote 911, which provides, in pertinent part:

The use of this frequency band for ISM applications shall be subject to special authorization by the administrations concerned in agreement with other administrations whose radiocommunication services might be affected. In applying this provision administrations shall have due regard to the latest CCIR Recommendations.¹⁰

⁸ The sole exception is 122-123 GHz, in which Part 15 operation is proposed but not yet authorized. Use of Radio Frequencies Above 40 GHz for New Radio Applications, 9 FCC Rcd 7078 at ¶ 18 (1994) (Notice of Proposed Rule Making).

⁹ 47 U.S.C. § 302a(a).

¹⁰ 47 C.F.R. § 2.106 n.911. In addition, the Petitioner notes that WRC-97 authorized ISM use of this band "only on the condition that limits of radiation from [ISM] equipment be specified within the bands newly designated for worldwide use" Petition at 6, *citing* WRC-79, Resolution 63.

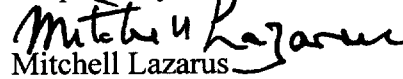
The mere fact that the Commission has found it unnecessary in the past to limit ISM emissions does not give ISM proponents any greater entitlement to the spectrum than other users enjoy in their respective allocations. The ISM industry does not own its spectrum. Its right to use the bands is limited to that granted by the Commission, through the process of rulemaking in the public interest. But the public interest has changed during the 53 years since promulgation of the present rule. Over that same period, many other services that began with exclusive allocations have had to accept limitations to facilitate sharing. It is entirely appropriate for the Commission to ask the ISM industry to accept reasonable limitations on the 61 GHz band to help make the band compatible for other uses.

Harmonix agrees with the Petitioner that a fair compromise would set 61 GHz ISM in-band emissions limits at the same levels specified in Section 15.255(b) for Part 15 operations, equivalent to EIRP values of 10W average and 20W peak. Harmonix also agrees there is no need to regulate ISM output power. An ISM device should be able to use whatever power it requires to function properly, so long as it incorporates shielding, if necessary, that reduces the radiated emissions to Section 15.255(b) levels. (In addition, of course, ISM equipment must comply with the Section 18.305(b) out-of-band limits.) Harmonix also agrees there is no need to change the equipment authorization rules applicable to ISM devices.

Conclusion

The Petition seeking reasonable in-band limits for 61 GHz ISM equipment is in the public interest. The Commission should promptly issue, and subsequently adopt, a Notice of Proposed Rulemaking consistent with the Petition.

Respectfully submitted,


Mitchell Lazarus

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May 19, 1999

Counsel for Harmonix Corporation.

CERTIFICATE OF SERVICE

I, Deborah N. Lunt, a secretary for the law firm of Fletcher, Heald & Hildreth, P.L.C., hereby certify that a true copy of the foregoing "Comments of Harmonix Corporation" was sent this 19th day of May, 1999, first class mail, postage prepaid, to the following:

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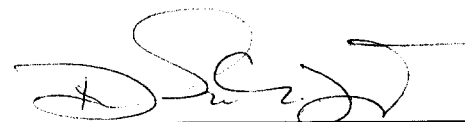
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